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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,395	11/02/2000	Jonathan S. Turner	52186	3173
26327	7590	09/27/2004	EXAMINER	
THE LAW OFFICE OF KIRK D. WILLIAMS 1234 S. OGDEN ST. DENVER, CO 80210			JAGANNATHAN, MELANIE	
			ART UNIT	PAPER NUMBER
			2666	

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/705,395	Applicant(s) TURNER ET AL.	
	Examiner Melanie Jagannathan	Art Unit 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>13002.30102</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,3,9-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Byrn et al. US 5,533,020.

Regarding claims 1,9-12, 14, 16-24, the claimed maintaining a plurality of timing wheels is disclosed by cell scheduling unit comprising banks of circular queues where each bank has timing wheels. See column 4, lines 33-40. The claimed inserting an entry into one wheel and removing entry at an appropriate time corresponding to position of entry in wheel and sending information corresponding to entry is disclosed by placement of queue Ids in to timing wheel and wheel selected according to priority and queue ID of wheel current position of wheel selected is passed to memory management unit which pulls the cell from the head of queue out of memory and updates queue state and cell is sent out for transmission and QID is passed to virtual connection activator to decrement appropriate VC queue length, update VC information table and initiate a new cell schedule. Regarding claims 16, 18, the claimed one or more transmit lists disclosed by VC table in VCA where QIDs get passed for cell transmission. See column 4, lines 60-67, column 5, lines 1-12, 41-59.

Regarding claim 13, the claimed first pacing rate identifier inserted into transmit list before second pacing rate identifier, second pacing rate identifier removed before first pacing

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rate identifier is disclosed by wheel having priorities associated with them so some packets are sent according to priority level and bound is placed on cells being transmitted from a single priority queue to allow for lower priority cells to be sent. See column 4, lines 33-67 and column 5.

Regarding claim 15, the first wheel having a finer timing granularity than second and items are removed from second transmit list only if first is empty is disclosed by priority values and wheel rates assigned and each wheel corresponding to a priority p and wheel rate r. See column 4, lines 33-59.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 2,4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byrn et al.

Byrn et al. discloses all of the limitations of the claims except for re-inserting entry into timing wheels after entry is removed from wheels and before or while sending information corresponding to entry and re-inserting entry into wheels before/after/concurrently entry is removed from transmit list. Bryn et al. discloses QID is used corresponding to target transmission time and QID passed to memory management unit and virtual connection activator with VC table in order for next cell to be schedule if queue length is greater than zero, the QID is removed from current wheel position after cell transmission and process is repeated until all cells scheduled are transmitted. At the time the invention was made it would have been obvious to re-insert the entry, the identifier as disclosed in the specification, before or while sending information and before/after/concurrently removing the entry from transit list. One of ordinary skill in the art would be motivated to do so for queuing efficiency.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Delp et al. US 5,844,890 discloses communications cell scheduler with priority timing wheels.

George et al. US 5,768,572 discloses timer state control with timing wheels.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 571-272-3163. The examiner can normally be reached Monday-Friday 8:00-5:00.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3163.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Melanie Jagannathan
Patent Examiner
AU 2666

MJ



FRANK DUONG
PRIMARY EXAMINER